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THE OPHTHALMOSCOPE

A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

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& Medical
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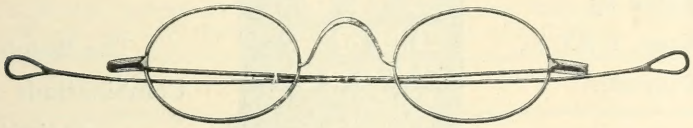

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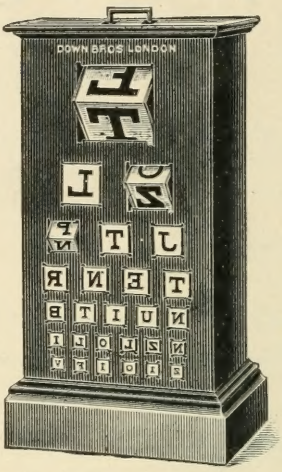

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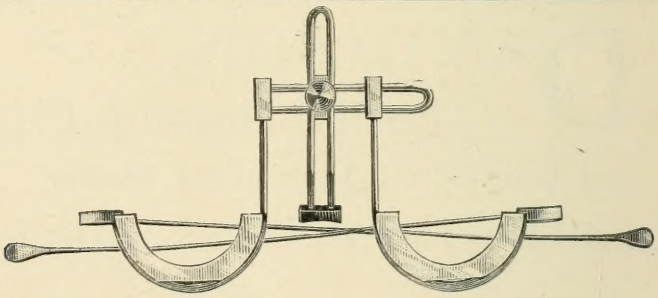

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ORIGINAL COMMUNICATIONS.

A CASE OF OPHTHALMOPLEGIA EXTERNA, WITH BLINDNESS OF ACUTE ONSET, IN A CHILD AGED FIVE YEARS.

By

FREDERICK E. BATTEN, M.D., F.R.C.P.,

ASSISTANT PHYSICIAN TO THE NATIONAL HOSPITAL AND TO THE CHILDREN'S HOSPITAL, GREAT ORMOND STREET, LONDON.

M. S., aged 5½ years, was the second in a family of three children. Thirteen weeks ago she had a severe attack of whooping cough from which she completely recovered in about five or six weeks, and was perfectly well till about two weeks ago, when she began to complain of headache and pains in the stomach and across the shoulders. She lost her appetite and was restless at night. For this she was kept in bed, and on getting up she walked unsteadily.

A week ago the mother noticed one morning that the child did not see, and the child asked her mother to bring a

candle because it was so dark. The mother noticed at the same time that the pupils were very large and that the child could not move the eyes. There seems to be no doubt that previous to this the child had been able to see well. There had been no vomiting, no convulsions, and no loss of consciousness. The child was bright and intelligent. No drooping of the eyelids had been noticed.

On December 31st, 1903, the child was admitted to the Children's Hospital, Great Ormond Street, London, and the following notes of the child's condition were made :—

The child was well-developed and well-nourished. She was bright and intelligent and answered questions well. The eyes were widely open, and it was obvious that the child was blind. The child could not distinguish light from darkness. There was no ptosis. There was a slight external strabismus. There was complete loss of power in all the muscles of the eyeball, the child being unable to move the eyes upward, downwards, inwards, or outwards. No attempt was made to converge. There was no weakness of the orbicularis palpebrarum. Both pupils were dilated to the extreme and no reaction to light was obtained. On ophthalmoscopic examination, the following note was made : " The left disc is pale, the margins are clear, the arteries rather small, and the veins full. There is no definite optic neuritis. In the right eye there is blurring of the upper and lower margin of the disc, the vessels are tortuous, and one of them is covered up. There is a very small hæmorrhage above and to the inner side of the disc."

No paresis of any other muscle of the body was found ; there was possibly slight incoördination of the right hand. The child walked with the hesitation of a blind person and tended to walk in a circle to the right, but was quite steady. All movements of the legs were strongly and well performed.

All the deep reflexes were abolished, and the knee-jerks could not be obtained even on reinforcement. The plantar reflex was most variable ; on most occasions a definite flexor response was obtained on both sides ; but at times a very definite, slow, extensor response would be obtained.

Progress.—The power of movement of the eyes rapidly returned, the movements of the external rectus being the first to come back, and by January 5th the eyes could be moved upwards, downwards, inwards, and outwards. The pupils were still dilated and did not react to light. On January 7th the child was seen by Mr. W. T. Lister, who made the following note : " There is still some paralysis of the left internal rectus. The other movements are good. The pupils are wide and the media clear. There is blurring above and

below both discs, with slight swelling of the margin, especially to the lower side of the left disc." On January 11th Mr. Lister again kindly saw the child, and made the following note: "The pupils are still dilated, but a definite, though slight, reaction to light is obtained. There is still slight left external strabismus, and the movements inward of the left eye are not as good as the inward movements of the right eye. The other movements are good. There is still swelling and blurring of upper and lower margin of the right disc, and in the left eye there is slight swelling at lower margin of the disc, the upper and lateral edges being clear."

The child complained of headache on one or two occasions and vomited twice, but apart from this, there was no disturbance of general health. The temperature, pulse, and respiration were quite normal.

At the end of January the child was up and walked about the ward, but there was no recovery of sight. The knee-jerks could not be obtained, and the plantar reflex gave a flexor response.

Blindness, some dilation of the pupils, some weakness of the left internal rectus and absent knee-jerks were the signs that remained after the other symptoms had cleared up.

Remarks.—The question arises, What is the pathological condition which gave rise to the symptoms in this case? There seems to be no doubt that the onset of the ocular symptoms was sudden, and was preceded for about a week by indefinite malaise and pains in the limbs. The whooping cough had been well for several weeks before the onset of the ocular symptoms, and there is no reason to think there was any connection between that disease and the occurrence of ophthalmoplegia.

The leading features of the case are complete paralysis of the third (excepting the fibres supplying the levator palpebræ), fourth, and sixth, nerves, and complete blindness with loss of deep reflexes.

It may be suggested that the condition is one of "neuritis" affecting the above nerves and due to some form of toxin, of which the best known is diphtheria, and the absence of the deep reflex might be thought to support this view. The fact that the disease was of sudden onset does not exclude the possibility of a "neuritis," for it is a well recognised fact that neuritis of toxic origin does sometimes have an acute onset. The fact, however, that there is no evidence of any general weakness or alteration of sensation in the limbs is very much against this view of neuritis, and it is well-known that the knee-jerks disappear in cases in which there is alteration in

the intra-cranial pressure quite apart from there being any paralysis or even paresis of the limbs. The explanation of this inhibition of the knee-jerks in cases of cerebral tumour in certain situations is an interesting one, for it has been shown that in many cases it has an anatomical explanation, *viz.*, affection of the posterior roots of the spinal cord, and before any actual pathological lesion can be demonstrated there must be some functional disturbance of those nerve roots which might well give rise to abolition of the knee-jerks. The explanation of the abolition of the knee-jerks in cerebral disease is a very difficult one, but it is certain that alteration of intra-cranial pressure does give rise to the absence of knee-jerks.

The possibility of the condition being due to meningitis need not be considered.

The sudden onset of the disease and the rapid recovery seem to point to a vascular lesion, and the subject may be dealt with under two heads :—

(1) What is the nature of the lesion?

(2) What is the situation of the lesion?

(1) *What is the nature of the lesion?* It has already been stated that the sudden onset points to a vascular lesion, and the condition may be due to hæmorrhage, to embolism, or to thrombosis.

With regard to hæmorrhage. A primary hæmorrhage without any cause is an uncommon lesion in a child, but a hæmorrhage into a gliomatous tumour may readily occur. A glioma may grow to a considerable size and invade the structures of the basal ganglia without giving rise to any symptoms, and it is possible that in this case a glioma had invaded the basal ganglia and a hæmorrhage has taken place into the region of the corpora quadrigemina and pulvinar, giving rise to the acute symptoms which passed off as the hæmorrhage became absorbed. In favour of this view may be stated the presence of slight optic neuritis with some headache, and the vomiting which was present on two occasions. The absence of the knee-jerks would then be explained by the presence of the tumour.

With regard to the condition being produced by an embolus, that view may be dismissed at once, for there is no source from which the embolus might arise, and, second, and more important, there is no vessel the blocking of which would give rise to the symptoms present in this case, which would not at the same time have caused far graver signs and probably death.

The view that thrombosis of some vessel or vessels was the cause of the disease was next to be considered. That the

condition was due to a thrombosis of one of the larger vessels is unlikely, for the same objections would apply as have been suggested in the case of an embolus. On the other hand, that the condition was due to a thrombosis of the finer vessels seems most probable. The onset of the ocular symptoms was preceded by a week of malaise with pain in the limbs suggestive of some toxic process for which the name "influenza" is convenient. The symptoms came on during the course of that disease and were not attended by loss of consciousness or convulsion. Anterior poliomyelitis although often acute in its onset, yet at times comes on during the course of some illness, or is preceded by malaise or fever. The course which the disease pursued is very similar to that seen in anterior poliomyelitis, *viz.*, at first an extensive paralysis, which rather rapidly clears up leaving a localised paralysis of a more or less permanent character. That the lesion should affect the grey matter to the greatest extent is only to be expected from what is known of the disease in other situations, and it has been shown that the disease will pick out the seventh cranial nucleus on one side, leaving both sixth nucleus and the opposite seventh nucleus intact.* The question whether the thrombosis is primary or secondary to inflammation is a question that need not here be discussed.

It seems, therefore, probable, that the lesion is due either to a hæmorrhage into a gliomatous tumour situated in the basal ganglia or to a polio-encephalitis inferior. The presence of slight optic neuritis which rapidly cleared up and the absence of the knee-jerks do not, in my opinion, militate against the latter view.

(2) *What is the situation of the lesion?* A multiple and symmetrical affection of the peripheral portion of the second, third, fourth, and sixth nerves may be excluded. A lesion at the base of the brain between the crura cerebri would account for the involvement of both third nerves but could hardly explain the complete paralysis of the other nerves. The most probable situation of the lesion would seem to be in the region of the anterior corpora quadrigemina and posterior portion of the optic thalamus involving the pulvinar and the external geniculate bodies.

Two difficulties in accepting this view present themselves: the first is that that portion of the third nucleus which supplies the levator palpebræ was unaffected. The nerve cells which supply this muscle are situated toward the anterior portion of the nucleus and therefore might escape, but the cells for the sphincter iris are, according to Edinger, situated still more anteriorly than those of the levator palpebræ, and since the

*Pathological Society Trans., Vol. 54, page 59, 1903.

sphincter was involved in both eyes, it seems difficult to explain why the leviator should escape. The second difficulty is in accepting the view that both sixth nuclei were affected, and considering the close proximity of the fibres of the facial nerve it is difficult to see how they should escape, for there was no facial paralysis. This, however, does not seem to me to be so great a difficulty, for it is known that the grey matter may be very extensively involved without destroying the conductivity of the medullated fibres in the region affected.

The most probable explanation of the case would seem therefore to be, that there has been a polio-encephalitis inferior affecting the region of the corpora quadrigemina and the external geniculate bodies, but the possibility of a hæmorrhage into a gliomatous tumour cannot be excluded. The future course of the case can alone decide the point. At the present time the child is well, except for the complete loss of vision.

A very similar case was reported by Mr. B. W. Gowring in the *British Medical Journal*,† December 26th, 1903, and in that case bilateral ptosis, paralysis of the ocular muscles, and external strabismus came on suddenly during an attack of whooping cough. There was no blindness, and the boy made a complete recovery. Mr. Gowring regards the attack as probably due to the same process which produces acute anterior poliomyelitis.

THE MIDDLEMORE LECTURE, 1903.

BACTERIAL DISEASES OF THE CONJUNCTIVA

(*Continued*).

By JAMESON EVANS, M.D., F.R.C.S.,

SURGEON TO THE BIRMINGHAM AND MIDLAND EYE HOSPITAL.

3. THE MORAX-AXENFELD DIPLOBACILLUS.—This organism was discovered by Morax and Axenfeld separately in 1896. It is a small, plump bacillus, 2 to 4μ long, and about 1μ broad. It is formed of two short rods separated by a fine line. They usually occur in pairs, but occasionally several may lie in contact by their extremities forming little chains. The bacillus generally lies free, but it may be encapsuled in leucocytes or epithelial cells. It is nonmotile, nonsporing, and aërobic. It stains with:—

1. Aniline dyes, *e.g.*, methylene blue and fuchsin (diluted).

†For abstract of the case referred to by Dr. Batten, see page 191 of the present issue of the OPHTHALMOSCOPE.

2. Pick and Jacobson's stain.*

It is decolourised in Gram's process.

The artificial media best suited for its growth are :—

1. Slightly alkaline serum.
2. Slightly alkaline blood agar.

Human or animal serum is almost essential to its growth. It will grow well in bouillon to which $\frac{1}{3}$rd of its volume of human serum has been added. After 24 hours growth on serum, a great number of small, transparent, punctiform colonies, with festooned contours, appear (*c.f.* pneumococcus). They become more evident and opaque after a few days, but nevertheless they maintain a certain transparency. These small colonies form little pits by liquefying the serum and hence the name "bacillus lacunatus," which has been applied to it. In stab cultures the growth takes place only on the surface ; a few greyish colonies may become visible in the upper part of the track after a few days. After a few weeks the serum becomes completely liquefied by peptonisation. After 4 or 5 days, involution forms, as long threads and coccus-like bodies, appear in the growth. The diplococcus is easily killed—a temperature of 58° C. for 15 minutes will destroy it.

This bacillus is non-pathogenic to animals. In the human conjunctiva it gives rise, after 3 days' incubation period, to a mild (subacute) form of conjunctivitis which is contagious.

4. STAPHYLOCOCCUS.—This is a spherical coccus of about 1μ diameter. It is arranged in clusters.

It stains well with :—

1 Aniline dyes, and
2. Gram's method.

The organism grows best at body temperature (and also at room temperature) on agar, peptone-gelatin, gelatine, or bouillon. An agar stroke culture, after 24 hours' growth at 37° C. is seen as a line of abundant yellowish (aureus), white (albus), or lemon (citreus) growth with a smooth, shining surface. In gelatine, small granular microscopic balls are visible after 24 hours. On the 2nd day, whitish-yellow points appear, which indicate liquefaction of the gelatine. At the end of about 3 weeks most of the jelly is liquefied. It renders media acid and sour, and coagulates milk. The organism is very tenacious of life—often living for several months.

*Pick & Jacobson's stain :—

Satd. Soln. of Methyl. blue in absol. Alcohol ..	8 drops.
Ziehl's Fuchsin.	15 ,,
Aqua destillat	20 c.c.

Stain for a few seconds and wash with water. The protoplasm of the leucocytes and epithelial cells is coloured rose; the nucleus blue; and the micro-organism ; take on a very deep blue or violet. The mixture will only keep a few days, but the original solutions will keep indefinitely.

5. Streptococcus.—Morphologically this organism is about the same size and shape as the staphylococcus, but instead of being arranged in irregular groups, it is arranged in chains. It stains with basic aniline dyes and Gram's stain.

On artificial culture media, *e.g.*, agar and gelatine, it grows much less readily than staphylococcus. On agar, after 24 hours or more, small, semi-transparent, circular discs appear. These show a great tendency to remain separate (*c.f.* staphylococcus). The separate colonies remain small, rarely exceeding 1 mm. in diameter. They often die in about 10 days at body temperature. In gelatine stab culture they appear as a row of minute rounded colonies of whitish colour, which may be separate at the lower part of the puncture. The growth does not spread on the surface, and no liquefaction of the medium takes place.

It is questionable how far these pus organisms are the cause of catarrhal ophthalmia. Probably the ophthalmia associated with impetigo and lacrymal inflammation is due to staphylococci. The disease caused by staphylococci is mild, and very often associated with phlyctenular conjunctivitis or keratitis.

Streptococci are associated with the more severe forms of catarrhal conjunctivitis, and especially with the forms in which there is a formation of membrane on the palpebral conjunctiva.

Other pus organisms, *e.g.*, B. Coli Commune, B. Pyogenes fœtidus, B. Pyocyaneus, Micrococcus Tetragenus, have been found in some cases of conjunctival catarrh.

Treatment.—In the treatment of catarrhal conjunctivitis, we have three main objects in view, *viz.*,

1. To prevent the disease spreading.
2. To destroy the microbe and its products.
3. To relieve symptoms.

1. In the first place we must adopt means, well recognised for all contagious diseases, to prevent the disease spreading to the patient's second eye (if only one eye is attacked), or to his neighbour's eyes. None of these types of conjunctival catarrh are air-borne as far as can be judged. Contagion is due to direct contamination by fingers, towels, handkerchiefs, etc. The surgeon should, therefore, give strict injunctions to the patient and his friends, on no account to apply any article used for the infected eye to the sound eye, or allow anyone else to use such an article. In schools it is well to isolate the children as far as possible and give them a special set of toilet articles, which should be washed and disinfected on the premises.

2. The direct method of attacking the disease consists in antiseptic and mechanical cleansing of the conjunctival

sac. It is well, before applying strong antiseptics, to wash off as much as possible of the discharge. For this purpose it is hardly necessary to use powerful antiseptic solutions. A lotion of boric acid or borax and soda is far less distressing to the patient than one of perchloride of mercury, formalin, or chinosol, and will probably be equally efficacious for the purpose of removing the discharge. The strong antiseptic is best applied by means of a little absorbent wool twisted round the end of a glass rod. It may also be applied with a a camel hair brush. The lids are everted and their conjunctival surface dried. The absorbent wool or brush is dipped in the antiseptic solution and then gently rubbed over the palpebral conjunctiva, care being taken to apply it thoroughly, especially to the retrotarsal folds, and to prevent the solution from running over the cornea. Any excess may be soaked up with cotton wool or washed off with dilute salt solution. One application a day for three or four days is generally sufficient to stop the discharge.

The solutions generally used are :

Silver nitrate, 2%. Protargol, 10% to 50%.
Argyrol, 10% to 50%.

Silver nitrate is the most economical and possibly the most efficacious, as it contains the largest percentage of silver of the three compounds, but it gives rise to a great deal of painful reaction. Protargol and argyrol give little pain, and, in my hands, they have yielded very good results. Besides these applications, which must be made by the surgeon himself, I am in the habit of giving the patient some mild antiseptic lotion, *e.g.*, boric acid lotion, and weaker drops of protargol or argyrol to use at home. I generally prescribe 2% to 5% protargol or argyrol to be instilled three times a day. The lotion is applied by means of small swabs of absorbent cotton wool, soaked in a small quantity of the lotion poured out into a cup. Both the wool and lotion used are thrown away afterwards, and thus the danger of contagion is minimised. It is better not to use sponges, syringes, or eyecups, as they are difficult to sterilise and may be the means of conveying infection to a sound eye. The pipette used for instilling the drops may be cleansed and dipped into boiling water after use, so as to make sure that any adherent discharge may be rendered sterile. A word of warning is necessary with regard to the use of the compounds of silver, especially their prolonged use in the form of drops. After a variable time they stain the conjunctiva a dirty-brown colour, producing what is called "argyrosis." Protargol is as liable to produce argyrosis as is silver nitrate. If, therefore, it is found necessary to use antiseptic and astringent drops for more than two or three weeks, the silver drops must be

replaced by those of zinc sulphate or chloride ($\frac{1}{4}$–$\frac{1}{2}$%), or copper sulphate ($\frac{1}{4}$–$\frac{1}{2}$%), or mercurol (2–4%). All of these may be conveniently combined with cocain, *e.g.* :—

Cocain Hydrochloride	8 gr.
Zinci Sulphat. .	1 gr.
Aqua destill. . .	1 oz.

The sulphate or chloride of zinc has been strongly recommended for diplobacillary and pneumococcus conjunctivitis. A strength of 2% should be used for acute cases. Such drops are irritating, but the pain can be allayed by the addition of cocain and adrenalin :—

Zinc. Sulphat. .	8 gr.
Cocain Hydrochlor. .	8 gr.
Liq. Adrenalin Chlor. .	1 dram.
Aqua destill. ad. .	1 oz.

At night a little ointment of a non-irritating character should be applied along the edges of the lids to prevent them sticking together. The weak yellow oxide of mercury ointment (1%), or ung. hydrarg. ammon. (1%) or Unna's ointment of peroxide of hydrogen* is suitable for this purpose.

3. Distressing symptoms should be attended to. Photophobia should be relieved by wearing shades or coloured glasses. Bandages are to be avoided, as the application causes the retention of the discharge in the conjunctival sac and this increases discomfort and aggravates the disease. It should always be borne in mind that shades and protectors, after being worn by the patient, are contaminated and form a possible means of conveying infection to others. Corneal and iridic complications require careful attention. Atropine should be added to the remedies in such cases,and if the general health be below par, the patient should be given tonics, *e.g.*, quinine, iron, or strychnine. It is seldom necessary to use more powerful agents, such as the cautery, to catarrhal ulcers of the cornea..

GONORRHŒAL OPHTHALMIA.

"*Gonorrhœal Conjunctivitis, also called Purulent Ophthalmia, or Acute Blennorrhœa of the Conjunctiva.*" When it occurs in newly-born children it is known as *Ophthalmia Neonatorum.*

This disease is fortunately not nearly so common as the catarrhal or muco-purulent form. It constitutes less than 1 % of all cases attending this hospital. It is highly destructive to sight and is the cause of more blindness than perhaps any other single disease. It has been shown that 13% to 46%

* Soln. Peroxide of Hydrogen
Lanolini
Vaselini Aa partes equales ft. ung.

of the inmates of blind asylums have been rendered blind by this disease.

The symptoms vary according as the disease occurs at birth or later in life.

(*a*) Ophthalmia neonatorum comes on 1 to 3 days after birth. It is characterised by redness and puffiness of the lids and a discharge which is serous and whey-like at first. As the lids get more swollen and hot, the discharge becomes purulent and more abundant. The conjunctiva is intensely congested, chemosed, and often ecchymosed. Ulceration of the cornea and iritis are very liable to occur. Unless the discharge is speedily arrested, the palpebral conjunctiva becomes thickened and covered with highly vascular granulations. The disease generally affects both eyes.

The infection is derived from gonorrhœal discharge in the maternal passages during parturition. A few cases have been recorded where infection seems to have occurred *in utero* and with intact membranes. It is quite conceivable that the organism can penetrate the membranes.

(*b*) Acute Blennorrhœa of Adults is more common in men than in women and is generally one-sided. The infection is derived from the genitals or from an infected eye. A form of acute blennorrhœa is said to be occasionally produced by infection of the eyes with the leucorrheal discharge of strumous vaginitis in young girls.

In this form of the disease the symptoms are more severe, and danger to sight is much greater than in ophthalmia neonatorum. The chemosis of the conjunctiva is very pronounced, so that it becomes a difficult matter to open the lids and to see the cornea. This stagnation of blood and lymph circulation in the conjunctiva, by masses of cocci which block the lymph channels, leads to malnutrition, infiltration, ulceration and perforation of the cornea, with which is associated an inflammation of the iris. The pain in such cases is generally great, and constitutional symptoms, such as slight feverishness and malaise, are present. Complications of a serious nature may be met with. In ophthalmia neonatorum perforation of the cornea may be followed by anterior polar or pyramidal cataract, owing to the damage to that part of the lens which becomes applied to the opening in the cornea. In both forms we may meet with abscess of the lids or lymphatic glands, tenosynovitis, arthritis, pericarditis, endocarditis, pleurisy, or meningitis.

(*To be concluded.*)

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

INTERSTITIAL KERATITIS AND ITS RELATION TO INJURY.

By
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Three cases of double interstitial keratitis, which began immediately after an injury to the eye, have come under my notice recently.

The patients were young men, who showed undoubted signs of being congenital syphilitics.

The first case came to me complaining of a small central superficial corneal wound in the right eye, which, he stated, had been caused by a little piece of metal "jumping up" and hitting him while he was at work. I watched the case develop into ordinary interstitial keratitis in that eye, and saw the left one follow in the way usual in congenital syphilis. Clinically there is nothing peculiar to record; he became an ordinary case of double interstitial keratitis, ultimately proceeding towards recovery in the customary manner.

The second case was the result of a superficial injury to the cornea, caused by a mosquito bite. This also developed into double interstitial keratitis, presenting nothing out of the way, and going through the usual course.

The third case began after a blow on the eye by a football. Here there was no corneal wound, but the injured eye developed interstitial keratitis, and subsequently the second eye did likewise.

After watching the first case through its changes, I was inclined to put down the onset of the interstitial keratitis in the two eyes as being coincidental. When, however, the second case and then the third came before me, I could not doubt their being caused by the injuries the eyes had received. The fact that the patients were all subjects of congenital syphilis, possibly ready to develop interstitial keratitis, seems to indicate that the injuries the eyes had been submitted to precipitated the trouble.

It is a point, perhaps, of practical every-day interest to mention that the first man's father was most desirous of obtaining full pecuniary compensation from the employer for the damage done to his son's eye. He threatened legal proceedings in a somewhat assertive manner, but law was un-

interesting to him when he discovered the true, underlying cause of his son's trouble, and he became humble and expressed himself as being grateful for very small monetary mercies.

The text-books say practically nothing on the subject of keratitis of this variety and its relation to injury, and this is my excuse (if such excuse be needed) for drawing attention to the above cases, which have been of considerable interest to me.

CASE OF ASSOCIATED MOVEMENT OF EYELID AND JAW.*

By

George C. Harlan, A.M., M.D., Philadelphia, Pa., U.S.A.

A.G., aged four years, was referred to the eye department of the Pennsylvania Hospital from the medical clinic by Dr. George W. Norris, on account of a spasmodic twitching of the left eyelid during mastication. The patient was a well developed child of good intelligence, without any other signs of either local or general disease. The pupils, the movements of the eyeballs and the lids, and the ophthalmoscopic appearances were normal.

The father had for many years been subject to occasional attacks of insanity, and the mother had goitre. There were nine children, six of whom were living. There were no miscarriages. The patient had had diphtheria when six months old, but he recovered without any complications. At two years of age he had had typhoid fever ; immediately afterwards, his mother states, the affection of the eyelids was noticed.

Examination showed that during the process of mastication there was an energetic and rapid winking of the left eye, which gave the impression of blepharospasm and was entirely beyond the patient's control. When the boy was seen again some weeks later, the movement of the lid was much slower, but it was still decided : and it was evident that it was due to contraction of the levator. It was coincident with the opening of the mouth, and was more decided when the patient looked down. There was a just perceptible ptosis. When the boy looked directly forward the right upper eyelid just reached the margin of the cornea, while that of the left eye covered it. The movements of the lids and eyeballs were otherwise normal, the pupils were equal,

*Read before the Section on Ophthalmology of the College of Physicians of Philadelphia, February, 1904.

the irides were active, and the ophthalmoscopic appearances were normal.

Remarks.—I find that, since attention was first called to the subject, by a case reported by R. Marcus Gunn in 1883 (*Transactions of the Ophthalmological Society of the United Kingdom*, Vol. III), quite a number of cases of so-called "jaw-winking" have been recorded. Sinclair in 1895 (*Ophthalmic Review*, October, 1895) reported six cases occurring in his own practice, and collected twenty-six others from literature. He says the condition most frequently met with is the following: "There is one-sided congenital ptosis varying in degree, and with or without paresis of the superior rectus. The drooping eyelid cannot be voluntarily raised, but is vigorously raised when certain movements of the lower jaw occur. The movement is strictly limited to the levator muscle and the patient cannot control it." Of the thirty-two cases collected by Sinclair, there was a decided ptosis in all but three, and one of these three is recorded as doubtful. A committee, consisting of Gowers, Mackenzie, Lang, and Abercrombie, appointed by the Ophthalmological Society to study Gunn's case, reported, as the simplest explanation, that the levator was innervated both from the nucleus of the third nerve and from the external pterygoid portion of the nucleus of the fifth nerve. Ole Bull and others think that the movement in these cases is purely reflex, and is simply what we note in children with blepharospasm when they open their mouths in their efforts to open their eyes. Hilfrich has suggested that the abnormal nerve fibres may come from the nucleus of the facial. N. Bishop Harman, in an article on the innervation of the orbicularis, in which he opposes the view of Mendel and others that this muscle receives its nerve supply from the nucleus of the third, has suggested an ingenious explanation (*Transactions of the Ophthalmological Society of the United Kingdom*, 1903). He states that in the shark, the fifth and the seventh nerves are so closely associated that they are commonly known as the "facial complex," and that the orbito-spiracular musculature innervated by this facial complex is the primitive ancestor of the complicated facial musculature of man. In the fish, when the mouth is opened, the spiracle dilates, and it is a revival of this which we see in these curious cases of "jaw-winking" movement. In other words, it is an atavistic anomaly. There is a weak levator and during the action of the pterygoid there is an associated relaxation of the orbicularis which enables the weak levator to raise the eyelid.

The case just recorded differs from others in not being a congenital condition. As the child's mother is more intelligent than the average of her class and was very closely questioned,

it is believed that her account can be relied upon. Of course, no morbid process could transfer a nerve fibril to another nucleus, and no explanation that supposes an abnormal nerve supply will serve our purpose. Perhaps the case lends itself better to Harman's theory than to either of the others, as we have only to suppose a weakened levator.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

(1) **Coppez, Henri.—The examination of the pupil.** (L'exploration de la pupille.) *Revue générale d'ophtalmologie*, 28 février, 1903, and *Archives d'ophtalmologie*, février, 1903.

(2) **Fuchs, Alfred.—How to measure the size of the pupil and the reaction-time in some forms of mental and nervous disease.** (Die Messung der Pupillengrösse und Zeitbestimmung der Licht-Reaction der Pupillen bei einzelnen Psychosen und Nervenkrankheiten.) *Jahrbücher für Psychiatrie und Neurologie*, 24 Band, 2-3 Heft, 1903.

(3) **Bach, L.—Studies upon the pupil.** (Pupillenstudien.) V. Graefe's *Archiv. f. Ophthalmologie*, Bd. 57, 2 Heft, Dezember, 1903.

The three papers of Coppez, Fuchs, and Bach deal with the pupil, although from somewhat different points of view.

(1) There is no standard way either of examining the pupil or of recording the results. In the present communication Coppez tries to remedy these defects. The author first briefly discusses the innervation of the pupillary movements, and, in doing so, admits the existence of a dilator pupillæ. The following are the precautions that should be taken, and the points to which, in Coppez's opinion, attention should be devoted during investigation of the pupils. To examine the photo-reflex, the patient is seated by a well-lighted window, direct sunlight and reflections from white walls being avoided. Investigations should not be undertaken on days when the light is likely to change suddenly from the passage of dark clouds across the sky, and for similar reasons when the day

is drawing to a close. Artificial light, as proposed by Bach, is not to be recommended. No measurement is to be taken until the patient has been seated before the window for at least two minutes, to allow of adaptation. Under these circumstances pupils, in the physiological state, measure 2mm. to 4mm. in diameter, and mostly vary from 2.5mm. to 3mm. Above or below the last-named measurements some pathological change should be suspected. Coppez appears to think that the readings of so-called pupillometers are apt to be inexact, and he states that, with a little practice, the diameter of the pupil can be estimated to within half a millimètre. The result of this examination of the relative size of the pupils is recorded in the following simple way :—

R. $\left\{ \begin{matrix} < \\ = \\ > \end{matrix} \right\}$ L. The absolute diameter of one pupil in a state of rest is taken after the other eye has been kept covered for a minute or so with a black silk shade. The process is then repeated for the other eye. In order to determine the direct action of the pupil, one eye is covered, and the hand is passed rapidly before the other eye, and in this way one notes whether the movements of the latter are normal, diminished, or abolished. The other eye is then examined in its turn, and the results are noted thus :

To estimate the indirect action, both eyes are covered with the surgeon's hands, and one pupil is watched closely whilst the other is quickly covered and uncovered by the hand. Results recorded as above. During these several examinations the patient must look towards distance through the window, and the surgeon must be careful to avoid any shadows being thrown by his body upon the eye. The variations of the pupil during convergence and accommodation are to be noted by getting the patient to fix an object at about thirty centimètres from his eye. Coppez attaches considerable importance to the action upon the pupil of such agents as mydriatics and myotics. Cocaine and atropine, as everybody knows, both dilate the pupil, but not by means of the same mechanism. Cocaine produces mydriasis by excitation of the dilator fibres, and atropine by paralysis of the constrictor fibres. Coppez gives examples of the way in which the employment of atropine and cocaine may facilitate diagnosis. H. DE V.

(2) The perusal of this very instructive paper will well repay the reader, although he will find it somewhat encumbered by details referring to methods which are merely of historic interest. The size of the pupil is not, as is sometimes thought, proportionate to the brightness of the illumination but depends altogether on the condition of adaptation of

the eye (Schirmer); thus that exactly the same strength of light may act as a contractor or dilator, according to the condition before it came into action. The minimum to which the pupil contracts is retained for a moment only, to be succeeded by a moderate dilatation, and after a few further small fluctuations, by the condition of relative rest (Heddaeus). This is the normal form of light reaction, although some authors have considered it peculiar to various forms of nervous troubles. Haab has shown that the mere fact of drawing the attention to a source of light or of reproducing in one's memory the idea of light is sufficient to cause reaction of the pupil, and in the same way the idea of pain, terror, etc., gives rise to differences in the pupil (Pilz). Most authors agree that the great importance commonly attributed to the colour of the iris, refraction, etc., as determining the size of the pupil, are overrated, while old age certainly leads to decrease of the size of the pupil. The first to introduce photography as the means of fixing the reactive changes of the pupil graphically was Bellarminoff, but Fuchs has greatly improved the apparatus. The photographic plate is made to slide along by the action of well-regulated clockwork, while a diaphragm is inserted to limit the photographic impression to the greatest meridian of the pupil only. The author is able to satisfy himself that the result of direct reaction is equal to the result of indirect reaction of the pupil (while Bach arrives at different results), and that also the beginning and the velocity of both are about the same. It is impossible, and perhaps not necessary, to enter more thoroughly into the contents of the second part of this paper, in which the author deals with the extent and promptitude of the reaction in several nervous affections. It may suffice to mention that the reaction is considerably more sluggish in hysteria than, for instance, in neurasthenia and epilepsy, so that especially with regard to the latter complaint this difference may possibly be of clinical importance and serve to determine the diagnosis. The pupils also act very sluggishly in case of chronic alcoholism, and the degree of pupillary inactivity may even be considered as commensurate with the gravity of the particular case. In tabes the excursion of the pupil is not only much less but also much slower. Fuchs' article is well illustrated by photographs, and the original should be read by all interested in this intricate and obscure subject.

R. GRUBER.

(3) Bach, too, lays great stress on the clinical importance of the exact determination of pupillary activity, but his methods are much less elaborate, and more adapted to the consulting room than to the laboratory. He seems

to neglect the effect of complete adaptation, and, in consequence, his results are in more than one respect contradictory to the ones recorded in the second paper. The author enters extensively into a discussion of the nervous apparatus which underlies the movements of the pupil, and recapitulates the results which he has recorded in prior communications. He does not think that Argyll Robertson's phenomenon is due to an affection of the nuclei of the oculomotor, but assumes the existence of inhibitory centres for both contraction and dilatation of the pupil situated close to the spinal extremity of the fourth ventricle near the middle line. In tabes he thinks these centres to be in a condition of chronic irritation, while myosis is due to the comparatively stronger sphincter muscle prevailing. The author then proceeds to state the symptoms afforded by the pupil as found in the various affections of the eye and of the nervous system. R. GRUBER.

Bach, L.—What do we know about the Centres and Paths concerned in the pupillary reflex? (Was wissen wir über Pupillenreflexcentren und Pupillenreflexbahnen?) *Zeitschr. f. Augenh.*, Feb., 1904.

This paper is too long for condensation. The chief results are as follow :—

That at the spinal end of the floor of the fourth ventricle, near the middle line and in close proximity to the respiratory centre, there is a well-defined, circumscribed zone, which is of great importance in the light reflex of the pupil, the action of which can best be explained by assuming that it is a reflex-inhibitory centre. This centre is a crossed one.

In front of the posterior corpora quadrigemina there is a subsidiary reflex centre.

In close proximity to the light reflex inhibitory centre there is a second inhibitory centre for the movements leading to a dilatation of the pupil ; this in addition to the assumed centre for dilatation of the pupil.

That there are important secondary centres in various parts of the cerebro-spinal system which control dilatation of the pupil. A. LEVY.

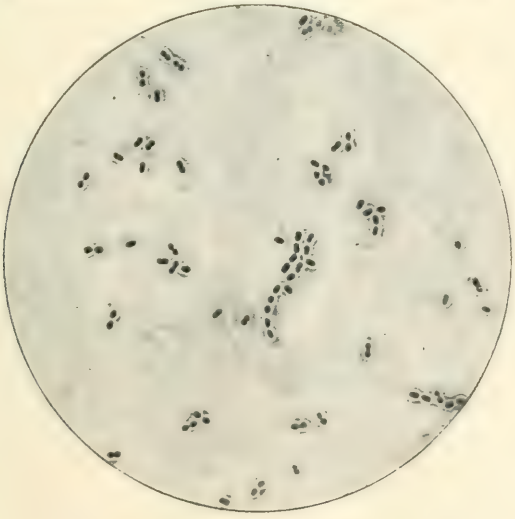
Jemma, R.—A new method of finding the tubercle bacillus in cephalorrachidian fluid. *Rivista di clinica pediatrica*, June, 1903, and *Archives of Pediatrics*, January, 1904.

The author recommends the so-called " mammary method " for the determination of the presence of tubercle bacilli in cerebro-spinal liquid obtained for diagnostic purposes by lumbar puncture. Ordinarily the usual method of inoculation

is very tedious and not always trustworthy. The new method was introduced into experimental pathology by Nattan-Larrier and Griffon. It consists in injecting the suspected liquid into the mammary gland of a guinea-pig during her period of lactation. If tubercle bacilli are present in the fluid, the animal will have a culture of these bacilli in the mammary gland and the milk examined daily will, after a short time, show these germs in large numbers. They may be stained in the usual manner and replanted on other culture media. The author examined three cases of tuberculosis by injecting the cerebro-spinal fluid into the mammary glands of guinea-pigs. He concludes that this method is very valuable as a means of diagnosis in suspected tuberculous meningitis. If we inject the fluid into the peritoneum we must wait about four weeks for the animal to die, in order to establish the diagnosis of tuberculosis. The inoculations with the new method must be made within two or three days after the guinea-pigs had born offspring, for after fifteen days the secretion gradually disappears.

Gordon, M. H.—Capsule formation by diplococcus pneumoniæ in culture. *British Medical Journal*, 19th March, 1904.

From an ophthalmic standpoint, the pneumococcus possesses considerable practical importance. It may be as well, therefore, briefly to abstract an article by Gordon with reference to the formation of capsules in culture, a point that may prove to be helpful diagnostically. Gordon has observed that cultures and subcultures of the pneumococcus in 12 per cent.



The pneumococcus, showing capsules in culture.

gelatine, after incubation for seventeen to twenty-four hours, show, when suitably stained, undoubted capsules around the organisms. A drop of the gelatine culture—which is, of course, fluid at incubation temperature—is spread over a cover glass, dried over the flame, and immersed in alcohol for one minute. The smear preparation is then placed in carbol fuchsine for one-half to three minutes. It is next merely dipped into water, mounted in a drop of water on a slide, and examined with 1-12 inch oil immersion lens. Although it is difficult to obtain permanent preparations, yet the accompanying photograph was made from such a specimen, which was obtained by staining deeply with carbol fuchsine, only slightly dipping in water, and then, after drying, passing through xylol and mounting in balsam in the usual manner.

Hilbert, Richard.—Upon yellow vision after Santonin. (Über Gelbsehen nach Santonin.) *Die Ophthalmologische Klinik*, 20 März, 1904.

Some minutes after 3 cm. of santonin had been administered by Hilbert to his daughter, aged 14 years, a lively sense of yellow was complained of. Upon examination with Heidelberg coloured papers, pale blue was described as "blue-green," and light violet as "dirty yellow-red." The other colours were named correctly. Hilbert attempts to explain these colour-anomalies. S. S.

(1) Wood, Casey A.—The various methods of preserving and mounting gross eye preparations. *Journ. American Medical Association*, September 26, 1903.

(2) Santucci, L.—Some modifications in Priestley Smith's recent method of preparing and preserving the bisected eyeball. (Qualche modificazione al nuovo processo di Priestley Smith per la preparazione e conservazione degli emibulbi.) *Annali di Ottalmologia*, Vol. XXXII, Fasc. 11-12, p. 814.

(1) This is the report of the Committee upon the pathological preparations at the section of ophthalmology at the American Medical Association, New Orleans, May 5th to 8th, 1903. The members of the Committee included Drs. Casey A. Wood, H. V. Würdemann, and E. A. Shumway.

The older methods of preserving the enucleated eyeball were crude in the extreme, and it was not until the year 1883, when Priestley Smith devised his well-known plan of mounting the bisected eyeball in a glass receptacle containing gelatine, that any decided advance was made. The method in question

is fully described in the pamphlet before us. Treacher Collins' suggestion, namely, that in order to magnify the specimen, a plano-convex lens be cemented to the upper surface of the jar, is mentioned. Dixon (*New York Ear and Eye Infirmary Reports*, January, 1898) hardens the punctured eyeball in 10% formalin for twenty-four hours, and when it is wished to retain the vitreous, employs alcohol, 25% to 80%, gradually increased in strength by 10 per cent. daily. Alcohol is removed by placing the globe in from ten to twenty times its volume of water for twenty-four hours. When the eyeball has settled down to the bottom of the vessel, enough alcohol has usually been removed to allow of freezing. For the latter purpose a box, some seven inches square, is employed. The globe is wrapped in oiled silk, and placed in the box, previously filled with mixed pounded ice and salt, and allowed to remain for one hour. When removed, the frozen eyeball is rested on a piece of cork, and quickly bisected with a thin, sharp knife. The hemispheres are placed in distilled water to thaw, and are then passed in succession through chloral hydrate (5%), and glycerine, 33% and 50% respectively. The specimen will then be fit to mount in glycerine jelly. The formula recommended for the jelly is gelatine 1 part, water 8 parts, and glycerine 8 parts. White of egg is used to clear the jelly, which must be filtered through absorbent cotton and not through flannel, as generally recommended. In order to preserve the jelly, a little carbolic acid is added. Light should be excluded as much as possible for the stock jelly flasks. The mounted specimen may with advantage be exposed to the vapour of formalin under a bell-jar, for if so treated, it is less likely to run in hot weather, but exposure must not be too long. Porcelainized glass is the most satisfactory material for sealing the open end of the glas jar, and it is fastened into place with Stratena or Major's cement, applied hot. To protect the specimen still further, the jar may be cemented into a square wooden base, countersunk in the middle about a quarter of an inch. The fact that light tends to darken gelatine suggests the wisdom of shielding the mounted specimens from strong light. Dixon now dries the specimen more thoroughly with calcium chloride under a bell-jar, and employs Bell's cement, as well as the ones named above, for the purpose of cementing the bottom on, and he then applies two or three coats of zinc white to the joint. Goldberg adds pure formalin to the glycerine jelly after filtration, and claims that this prevents the medium from melting in summer heat. Greenwood fixes the eye for one to four days in the following solution: formaldehyde, 200; water, 1,000; nitrate of potassium, 15; acetate of potassium, 30. The eye is then placed for one to

six hours in 80% alcohol, and then in 95% alcohol for one to two hours. It is preserved in acetate of potassium, 200; glycerine, 400; water, 2,000. After freezing, the eye is cut and placed in glycerine jelly in the usual way.

The great disadvantage of jelly preparations is that subsequent microscopical examination of the specimen, should such be necessary, is difficult, a drawback that can be got over by preservation in some fluid medium instead of in gelatine. Greeff's plan (*see* OPHTHALMOSCOPE, Vol. I (1903), p. 219) is the best known. He hardens the eye in 10% formalin, bisects the organ, and fastens the eye to the interior of the oblong glass jar used in the process by means of gelatine. When the latter is dry, the jar is simply filled with 10% formalin. The fluid preservative has several advantages, as simplicity, rapidity, and economy, over the Priestley Smith method. Edgar S. Thomson immerses the bisected eye for three days in acetate of soda, 3%, chloride of sodium, 5%, and formalin 10 %. It is then placed in alcohol (80% to 95%), and is next soaked for two or three days in acetate of potash, 90, glycerine, 180, water, 300, and is finally mounted in a fresh solution of the last-named formula in a glass jar. Shumway, as a rule, employs the gelatine mount. The gelatine, however, is in stronger concentration (40 grms. to 250 c.c. of water) than is usually advised. The specimens are mounted in cups, and after the surface of the gelatine has set, it is exposed to the fumes of strong formalin, so as to harden the medium to the depth of one-quarter inch.

The remainder of this Report (which will well repay study by those interested in pathology) is devoted to the consideration of the ways of photographing macroscopical eye preparations. A number of admirable photographs, showing hæmorrhagic glaucoma, anterior staphyloma, plastic choroiditis, melanosarcoma, and so forth, illustrate the communication.

(2) Santucci gives the following rules for preparing and keeping the divided eyeball: (1) the globe, as soon as possible after enucleation, should be plunged into 5 % formaline at a temperature of 30° to 35° C., and allowed to remain in the liquid for twelve to twenty-four hours exposed to the sun or to a moderate temperature in the thermostat; (2) after twenty-four hours, the outside of the eyeball is cleansed, and the eyeball placed in a 10 % cold solution of formaline, where it remains for forty-eight hours at the least; the liquid is changed from time to time; (3) after the globe has been cleansed down to the sclerotic, it is carefully washed, smeared with vaseline, and enveloped in gutta-percha tissue. It is then placed in the central part of a convenient receptacle,

provided with a hole, and filled with a freezing mixture of ice and salt, where it remains for not less than two or three hours, in order that it may become thoroughly frozen; (4) the frozen eyeball is taken from the ice and salt, its gutta-percha covering removed, the vaseline cleaned off, and it is divided in any direction desired by means of a very sharp razor. It is usually advisable to make the section through the horizontal meridian of the cornea and the axis of the optic nerve; (5) in order to get rid completely of the vaseline, the two halves of the eyeball are immediately placed in 10 % formaline, where they remain for two or three days. If it is wished to avoid the least displacement of the crystalline lens, every trace of vaseline must be got rid of before section, and immediately after section, the specimen must be placed, once and for all, in Priestley Smith's jar, filled with 10 % formaline at a low temperature; (6) the receptacle should be filled to overflowing with formaline (10 %) and the specimen be placed in the liquid in such a way that its surface looks towards the bottom of the jar. The cover, having in its central aperture a small pipette, is then placed in position. In adjusting the cover, the surplus liquid and any air bubbles rise in the pipette. After withdrawing the latter, it is replaced by a small glass stem, ending in a point, which is so arranged as to keep the specimen in place; (7) the jar having been carefully cleansed, the cover is cemented into place. The specimen, thus prepared, keeps indefinitely, retains its colour and shape, may be used for demonstration and be photographed, and may even be removed from the glass receptacle and be prepared for microscopic examination.

A. ANTONELLI.

Henderson, E. Erskine.—Two Cases of Pigmentation of the Retina. *Royal London Ophthalmic Hospital Reports*, vol. 15, part 4, October, 1903.

This paper consists of a pathological description of two cases which showed all the signs of retinitis pigmentosa. Both eyes were removed for pain, and both were in a condition of absolute glaucoma. The first patient was a woman, aged 72, and the other a man, aged 21 years. A full and detailed account is given of the appearances of the eye, and the condition of the retina and choroid is minutely described. No definite conclusion as to the cause is drawn, but the views of previous observers are given. The association of glaucoma with retinitis pigmentosa is drawn attention to, and by some it is considered that a similar predisposition to vascular changes may underlie both complaints.

C. D. M.

Schanz, Fritz.—Upon the variability of Gonococci. (Ueber die Variabilität der Gonokokken.) *Deutsche mediz. Woch.* Nr. 10, 1904, and *Woch. f. Therapie u. Hygiene des Auges*, April 7, 1904.

The gonococcus is more variable than has hitherto been generally assumed. Schanz shows that quite a large number of diplococci, which resemble gonococci, and which have been termed "pseudo-gonococci," are to be placed amongst the gonococci. In this respect the organisms of gonorrhœa resemble those of diphtheria. Schanz believes that the variability of gonococci forces one to seek a new explanation with regard to the origin of gonorrhœa. MAX P.

Guth, Ernst.—A case of hyaline degeneration of the conjunctiva. (Ein Fall von hyaliner Entartung der Bindehaut.) *Centralbl. f. prak. Augenheilkunde*, Beilage, 1903.

Of the forty-three cases of hyaline degeneration of the conjunctiva reported by Oettingen, Kubli, and Rumschewitsch, no fewer than thirty-one were met with in Russia, while five came from countries bordering upon Russia, five from Germany, and two from Italy. No single case has yet been reported from Austria, with the exception of the one described in the present communication by Guth. The patient came from a district where the disease was unknown, and he had never suffered from trachoma. The right eye had been affected for about a year, and the disease had followed an accident with lime. Upon examination, there was found to be an advanced condition of hyaline or amyloid disease of the conjunctiva of the right eye, while that of the left eye was affected to a much less extent. The case was treated by partial removal of the diseased membrane, and the patient was lost sight of shortly after the operation. Pieces of tissue were examined microscopically, and found to be in a condition of pure hyaline degeneration. In the examination of such degenerated tissues, Guth attaches importance to the employment of Ramocki's method of staining. The communication is accompanied by an illustration of the clinical appearances presented by the patient. S. S.

Steiner, L.—A case of amyloid degeneration of the Conjunctiva and Tarsus in a Malay. (Ein Fall von amyloider Degeneration der Bindehaut und des Tarsus bei einem Malayen.) *Centralbl. f. prak. Augenh.*, Feb., 1904.

This is a case of great thickening of both upper lids in the course of a severe form of trachoma. There was a trachomatous pannus in both eyes. The corneæ and palpebral conjunctivæ were much scarred and inflamed, as the result of this disease.

The swellings correspond to the tarsus in size and situation. They are sharply limited above, and are 5 cm. long, 3 cm. wide, and 2 cm. thick. The skin is nowhere adherent. The conjunctivæ, on the other hand, closely adherent. As the patient could not open his eyes, and as the trachoma could not be treated, it was resolved to remove these growths, which was done successfully, and, later, when they came to be examined microscopically, their amyloid nature was discovered. No trace of the essential fibrous tissue of the tarsus could be found, and in many places this degeneration has involved also the conjunctiva. Unfortunately no general examination of the patient was made, so that it is not possible to say whether he was or was not suffering from lardaceous disease. A. LEVY.

II.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Rollet, Etienne.—Lymphadenoma of the Orbit. (Lymphadénome de l'orbite.) *Rev. générale d'ophtalmologie*, février, 1903.

Rollet describes a rare case, namely, one of lymphadenoma, of three years' duration, in a woman, aged 52 years. A hard, non-pulsatile tumour, the size of a mandarin orange, was situated in the supero-external angle of the left orbit. The eyeball was thrust forwards, downwards, and inwards. The movements of the globe were restricted, particularly in an outward direction. The upper eyelid could not be raised; there was very obvious ptosis. The pupil reacted neither to light nor to accommodation. Iritis was present. The fundus could not be made out, and vision was equal to perception of light only. The general appearances produced by the neoplasm at this stage are shown in the accompanying illustration. No signs of cephalic extension. The patient complained of pain in the left cheekbone and in the neighbourhood of the teeth in the left upper jaw. There was a discharge from the left nasal fossa, but nothing abnormal could be recognised in that cavity. The left maxillary sinus could not be made to glow by trans-illumination. There was marked deafness on the left side. There was a trace of albumen in the urine; but there was no cachexia, and the general state of the patient was good. An examination of the blood was apparently not carried out. Rollet made a provisional diagnosis of sarcoma of the lacrymal gland. The tumour was removed without interfering with the eyeball. It consisted of two parts connected by a fibrous expansion, and was encapsuled. No relapse five months after operation.

Pathological examination by Paviot went to show that the neoplasm was either a lymphadenoma or a lymphosarcoma

of the orbit, apparently not connected with the lacrymal gland.

H. DE V.

(1) **Stephenson, Sydney.—On a common appearance of the optic papilla likely to be mistaken for optic papillitis.** *Reports of the Society for the Study of Disease in Children*, Vol. III (1903), p. 342.

(2) **Pick, L.—Pseudo-neuritis of the optic disc. Œdema of the Disc. Optic neuritis. (Pseudoneuritis optica, Œdem der Papilla N. optici. Neuritis optica.)** *Zeitschr. f. Augenheilk.*, Mar., 1904.

(1) Stephenson has a paper, illustrated by two coloured pictures, on the so-called " hypermetropic disc " or " pseudo-neuritis," which he found to be present in 22.80 per cent. of 114 children recently examined with the ophthalmoscope. The following points are given as distinguishing pseudo-neuritis from true papillitis: (1) pseudo-neuritis is a congenital condition, neither advancing or receding; (2) it causes no disturbance of vision, although it is often associated with a degree of congenital amblyopia; (3) the visual field

shows no changes; (4) no actual elevation of the disc can be demonstrated with the ophthalmoscope in pseudo-neuritis; (5) dilatation of the pupil or hæmorrhages or white spots in the neighbouring retina are not seen in pseudo-neuritis. Stephenson rejects the name "hypermetropic disc" for three reasons, as follows: first, because the condition is not more frequent and pronounced in high than in low grades of hypermetropia; secondly, because it undergoes no improvement when the hypermetropia is corrected by glasses; and, thirdly, because it is relatively as common in myopia as in hypermetropia. Stephenson looks upon "pseudo-neuritis" as a congenital non-differentiation of the optic disc, a view supported by the frequent existence of shreds of connective tissue and also by the tortuous state of the retinal vessels.

(2) Pick dwells upon the difficulty which occasionally arises of distinguishing a true optic neuritis from cases where, without any serious pathological change, the appearances closely resemble a true neuritis. He mentions two conditions which are liable to be mistaken for a neuritis: (1) pseudo-neuritis in ametropia, and (2) œdema of the optic disc. The first of these occurs in eyes that suffer from hypermetropia or hypermetropic astigmatism, and may be combined with tortuosity of the veins, the whole making a picture to be differentiated from a true neuritis only with difficulty. The following points are to be borne in mind: the transparency of the tissues, the normal reflex from the vessels, the permanence of the tortuosity and the refraction. Again, this pseudo-neuritis may be combined with a hyperæmia due to some fever, particularly the infectious ones. These are the most difficult cases, but here the vessels do not change, and the picture remains the same, whereas in a true neuritis the ophthalmoscopic picture varies very much in a short space of time. *Œdema of the disc.*—Here the disc is more swollen (1 to 3 D.) than in the other form, but retains its transparency unimpaired, and is accompanied usually by œdema elsewhere in the body. It occurs mainly in the primary and secondary anæmias. A. Levy.

Gowring, B. W.—A case of complete Ophthalmoplegia occurring during Whooping-Cough. *British Medical Journal*, December 26, 1903.

During an attack of whooping cough, a lad, aged four years, suddenly developed extreme irritability, unsteadiness of gait, bilateral ptosis, dilated and motionless pupils, and slight divergent strabismus. In ten days the ptosis and strabismus had disappeared, but the eyeballs were slightly protruded "and it became quite evident that the orbital muscles in

both eyes were paralysed." The fundi were normal. The child saw fairly well, except in a very bright light. Clinically, diphtheria could be excluded, although no examination was made for the Klebs-Löffler bacillus. Gowring regards the ophthalmoplegia as due to a process akin to that which produces acute anterior poliomyelitis affecting the nuclei of the ocular muscles, probably accompanied by some hæmorrhage due to strain during a fit of coughing.

Nettleship, E.—Observations on Renal Retinitis. *Royal London Ophthalmic Hospital Reports*, vol. 15, part 4, October, 1903.

This paper is the same as the one read at the meeting of the British Medical Association at Swansea in 1903, and has already been abstracted in our columns (*see* OPHTHALMOSCOPE, March, 1904.) C. D. M.

Galezowski.—Sub-retinal cysticercus in the region of the macula. (Cysticerque sous-rétinien de la région de la macula.) *Recueil d'ophtalmologie*, XXV (1903), p. 181.

A man of twenty years complained of a failure of the central sight in one eye. When seen by Galezowski, eighteen months after the beginning of the trouble, V.=1/10, and central scotoma. In the macula of the defective eye was a greyish-white vesicular swelling, as large as the optic papilla, and furnished with four lateral prolongations fixing it to the neighbouring parts. At its upper end lay the neck and head of a cysticercus, which manifested movements whilst under examination. Vitreous opacities made their appearance at a later stage. Galezowski's communication is illustrated by a coloured plate of the fundus. S. S.

Hazewinkel.—Siderosis bulbi. *Ned. Tijdschrift v. Geneeskunde*, 1903, No. 17.

Hazewinkel demonstrated a patient whose eye had been wounded by a piece of iron eleven years ago. Very slowly the eye lost sight, and atrophied without any inflammation, and at the present time showed marked rust-colour of the iris. The case shows that an eye containing iron, even if this is tolerated without the slightest complaint, is infallibly doomed to blindness. G. F. ROCHAT.

Gessner, C.—Upon amaurotic family idiocy. (Zur Kasuistik der familiären amaurotischen Idiotie.) *Münch. mediz. Wochensch.*, No. 7, 1903.

Gessner gives particulars of a case of amaurotic family idiocy

which he met with in a Jewish child, fifteen months old. The baby was born healthy, and remained so until the seventh month of life. It then gradually grew weak, and the movements became impaired, until, finally, the patient became completely lethargic. It could neither sit nor stand, nor hold the head straight. Spastic paralysis developed. The sight was lost, and upon ophthalmoscopic examination, this was found to be due to optic atrophy associated with the changes in the yellow spot region of the eye characteristic of this class of case. The child eventually died about a fortnight after sight had been lost. Syphilis, tuberculosis, and nervous trouble could be excluded. Gessner states that instances of amaurotic idiocy have been reported mainly from England and America, and after quoting cases by Tay, Sachs, and Müllberger, gives a general account of the symptoms and pathology of a very interesting and rare disease (For a recent case by Sachs, see OPHTHALMOSCOPE, February, 1904).

III.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

Praun, E.—Two atypical operations for Cataracta accreta with good results. (Zwei atypische Operationen der Cataracta accreta mit gutem Erfolge.) *Centralbl. f. prak. Augenheilk.*, November, 1903.

In a couple of cases of cataracta accreta Praun adopted a modification of Wenzel's method of extraction. One patient obtained V.$\frac{6}{10}$ and the other V.$\frac{6}{18}$.

Barraquez.—Grafts of adipose tissue after enucleation of the eye. *Congrès International de Madrid*, 1903.

In order to obtain a mobile stump and to secure other advantages after enucleation, Barraquez has recourse to the implantation of a graft composed of adipose tissue, taken from the buttocks. This plan has the advantage over those already proposed, that the vessels of the fatty mass eventually inosculate with those of the capsule of Tenon. With this intention, before the enucleation, a suture is passed through each rectus muscle, and when the eye has been removed, the superior rectus is united to the inferior, and the external rectus to the internal, and the operation is completed by applying a purse-string suture to close the conjunctival opening. The result of the foregoing operation has been good in sixteen cases and bad in three cases. At the end of a year, the volume of the graft becomes somewhat lessened, sometimes even to one-half, although enough always

remains to form an admirable support for an artificial eye. It may be noted, finally, that Barraquez also employs a graft of adipose tissue after performing the operation of exenteration of the orbit. A. DARIER.

(1) **Morton, H. Mc I.—The therapeutic value of large doses of the salicylates in Uveitis.** *Ophthalmic Record*, January, 1903.

(2) **Gradle, H.—The value of Salicylate of Sodium in large doses in inflammatory eye diseases.** *Ophthalmic Record*, February, 1903.

(1) In all cases of inflammation of the uveal tract Morton gives massive doses (30 to 60 grains repeated) of the salicylate of soda upon an empty stomach and dissolved in cold water. He also advocates the frequent use of an effervescent aperient, the hypodermic injection of pilocarpine, a careful diet, and the application of leeches to the temple near the outer canthus.

(2) Gradle praises salicylate of soda in several inflammatory diseases of the eye, such as subconjunctivitis, scleritis, superficial corneal infiltrations, phlyctenular keratitis, nodular sclero-keratitis, diabetic iritis, certain forms of cyclitis, chronic uveitis, and Tenonitis. The remedy must be administered in heroic doses—say, for an adult, 80 to 150 grains a day.

Darier, A.—Subconjunctival injections of tuberculine T. R. in the treatment of interstitial keratitis. *Brit. Med. Journal*, September 26, 1903.

Darier treated with tuberculine T.R. a case of interstitial keratitis, which he believed to be of tuberculous nature.

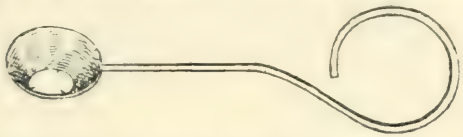
Snydacker, E. F.—A method for the prevention of Symblepharon after burns of the Conjunctiva. *Archives of Ophthalmology*, January, 1903.

Snydacker treated a severe burn of the conjunctiva (lower part) by sandwiching the lower lid between two shaped leaden plates. Sutures were passed through the lid itself and through perforations in the plates, and their free ends were so adjusted by strips of gauze that the lower lid was kept everted during the cicatrisation of the conjunctiva. The plates were removed at the end of eleven days. The parts healed without the production of symblepharon.

Armaignac, H.—A new proceeding for facilitating the even tattooing of the cornea. (Nouveau procédé pour le tatouage régulier de la Cornée.) *Recueil d'ophtalmologie*, XXV (1903), p. 463.

In order to secure a perfectly circular pupil in tattooing the

cornea, Armaignac employs the small instrument depicted in the accompanying sketch. This so-called *guide-aiguille à tatouer* is made in three sizes, having respectively diameters of 4, 5, and 11 mm. It is placed over the cornea, and held in position by the surgeon's left hand, the eyelids having first been separated by a speculum. A drop of Indian ink, sterilised in the autoclave, is placed in the funnel, and the ink is rapidly pricked into the cornea around the aperture of the instrument. In this way a clearly-defined boundary is obtained, and it is then a simple matter to tattoo the enclosed



area. The operation is done under cocaine, and if the parts are vascular, Armaignac lays some stress upon the simultaneous employment of adrenaline, 1 : 1,000. The largest instrument—that having a diameter of 11 mm.—is used when it is desired to imitate the iris upon an eye or stump that has become more or less leucomatous. If the stump is markedly shrunken, Armaignac recommends that the pupil and iris should be made smaller than in nature, and that the parts should afterwards be magnified by letting the patient wear a convex lens of 6 D. or 7 D. (see OPHTHALMOSCOPE, April, 1904, p. 150).

S. S.

Valude, E.—The ophthalmic surgery of the frontal sinus. (La chirurgie ophtalmologique du sinus frontal.) *Annales d'oculistique*, T. CXXIX. (1903), p. 337.

To Valude it appears that there is a tendency amongst rhinologists to act too radically when dealing with the frontal sinus, inasmuch as resection of the anterior wall and destruction of the cavity of the sinus now seems to be the favourite proceeding in even simple cases of sinusitis. Valude claims that sinusitis with orbital manifestations is an affection that should be treated by the ophthalmic surgeon. It differs in some important particulars from other forms. Thus, it is seldom accompanied by maxillary sinusitis; it is often encysted: the infection seldom spreads to the cranial cavity; and, finally, it may frequently be cured by simple surgical measures. After describing and criticising the newer surgery of the frontal sinus, Valude points out that Kuhnt's operation, which consists in the total destruction of the cavity of the sinus, may entail diplopia from interference with the pulley of the superior oblique muscle, besides causing great disfigurement. In the operation as modified by Luc, the anterior

wall of the sinus is resected, fronto-nasal drainage is secured, and the skin wound is immediately closed. Valude then narrates the details of three cases (two of mucocele and one of true sinusitis), which were cured by merely opening the sinus, evacuating its contents, and curetting its mucous lining. Fronto-nasal drainage, in Valude's opinion, is a thing to be avoided altogether in the treatment of these cases. The radical procedures, as those of Kuhnt-Luc and of Kuhnt, may be kept in reserve for cases which the simpler means have failed to cure. S. S.

Reik, H. O.—Why not employ intra-capsular irrigation in Cataract operations? *Annals of Ophthalmology*, July, 1903.

Reik has employed irrigation, according to McKeown, in twenty cases of cataract extraction with these results (given in his own words): no losses; complete removal of cortex in 18, and some remnants left in 2; but two instances of any marked degree of iritis; good vision in every case; and so far, but two have required operation upon the capsule. Reik concludes an argumentative but temperate article with a recapitulation of McKeown's well-known aphorisms.

Sommer, G.—Upon the technique of iridectomy in Glaucoma. (Zur Technik der Glaukom-Iridektomie.) *Woch f. Therapie u. Hygiene des Auges*, 3 März, 1904.

As the result of an untoward incident (violent relapse on eighth day), Sommer is of opinion that a downward section should be definitely abandoned in cases of iridectomy for glaucoma. MAX P.

(1) **Lindenmeyer.—Eumydrin: a new Mydriatic.** *Berl. klin. Woch.*, November 23rd, 1903.

(2) **Goldberg, Hugo.—Eumydrine.** *Heilkunde*, 1903, Nr. 3.

(1) Lindenmeyer reports on a new mydriatic called eumydrin. It is a white odourless powder, which is readily soluble in water. It is obtained from atropine, and is supposed to be so constituted that while its action on the pupil is not lessened, its poisonous effect on the central nervous system is greatly lessened. It is said to be fifty times less poisonous than atropine. Lindenmeyer has used it in 1, 2, 5, and 10 per cent. solutions, and applied in each case three drops of the solution chosen. One and two per cent. solutions cause dilatation of the pupil after ten to twenty-five minutes, after a further twenty to fifty minutes the dilatation reaches its maximum, and after remaining in this condition for about twelve hours, the pupil slowly returns to its normal size again. A little later than the mydriasis a

paralysis of the muscles of accommodation is noticed. In the majority of cases this becomes complete after the course of from two to three hours. The duration of this paralysis varies very markedly according to the age of the patient and to other factors; 5 and 10 per cent. solutions produce the dilatation of the pupil after from eight to fifteen minutes. The maximal dilatation is reached after from twenty to thirty minutes, and the size of the pupil becomes again normal after from three to five days in the case of the 5% solution, and after from four to seven days in the case of the 10% solution. The accommodation paralysis is complete in every case with both strengths. In nearly all the cases the paralysis of accommodation cleared up at the same time or before the mydriasis. In no case did he see any toxic symptoms. In normal eyes he found that the weaker solutions took a midway position between 1 per cent. homatropine and atropine, while the stronger solutions were nearly as active as atropine and the paralysis of accommodation did not last so long as with the last-named. He then tested it in pathological cases, and employed the weaker solutions in irritative conditions, such as phlyctenular affections, foreign bodies in the cornea, etc. In this class of case homatropine produces too short a dilatation, while atropine produces an unnecessarily long-continued action. The solutions were highly satisfactory. With the stronger solutions he was able to break down adhesions (synechiæ) in iritis, and when it failed he found that atropine also was incapable of doing better. He found it useful in both acute and chronic iritis cases. He does not think that eumydrin should be used instead of homatropine for dilating the pupil for diagnostic purposes, for he considers the production of a paralysis of accommodation lasting two or three days unjustifiable. In no case did the preparation produce any ill-effects, and the patients only occasionally complained of a slight burning sensation after the drops had been applied.

British Medical Journal, January 16th, 1904.

(2) Goldberg has conducted some experiments with eumydrin, a drug that is closely related to atropine. He found that in solutions of 1 : 100 it was preferable to a solution of atropine 1 : 1,000, in that it produced a prompter and more effective mydriasis than the latter and that its effects disappeared at the end of the second day, while in the case of atropine the effect persisted for several days. As compared with homatropine of the same strength it is preferable, as it produces more complete dilatation and does it more quickly. When used in the diseased eye its effects in this strength seem scarcely less than that of the one per cent. solution of atropine. So

far as the experiments went there was certainly no evidence brought out to show that it increased intra-ocular tension, or, in fact, that it had any injurious effect whatever.

Annals of Ophthalmology, October, 1903.

Bulson, Albert E.—Trichloracetic Acid treatment of Infective Ulcers of the Cornea. *Ophthalmic Record*, February. 1903.

Bulson has treated two cases of hypopyon-keratitis by applying to the infective ulcer a 20% solution of trichloracetic acid. The results were excellent. This experience leads Bulson to believe that the plan is superior to treatment by pure carbolic acid or other caustics, while it is safer than the galvano-cautery, and more efficient than curettage.

Lawson, Arnold.—A case of Acromegaly with Bitemporal Hemiopia, showing the changes that have taken place in the visual fields after four months' treatment with pituitary body tabloids. *Trans. Ophthalmological Society*. Vol. XXIII, 1903.

Lawson's patient, a man, aged 30 years, who exhibited all the signs of acromegaly, manifested considerable improvement in sight and in the size of the visual field after four months' administration of pituitary body in large doses. The left eye showed more improvement than its fellow (For a similar case by S. Snell, *see* OPHTHALMOSCOPE, September, 1903, p. 115).

Sommer, G.—Upon oily collyria. (Ueber Oel-Kollyrien.) *Woch. f. Therapie u. Hygiene des Auges*, April 7, 1904.

A traumatic erosion of the cornea, which was painful and refused to heal under ordinary applications, speedily yielded to a 3 per cent. solution of cocaine in sterilised olive oil. This fact leads Sommer to recommend the more frequent use of oily collyria, which appear to enjoy little favour in Germany.

S. S.

Siklóssy, Julius von. Contributions to the surgery of the eyelids. (Beiträge zur Chirurgie der Lider.) *Klin. Monatsbl. f. Augenheilkunde*, J. XLI. (1903), Bd. I., p. 17.

Siklossy's cases include several instances of restoration of the eyelids by modifications of Richet's, Dieffenbach's, and Fricke's operations. The article is illustrated by six photographs.

MAX P.

(1) **Khadem, El.—Protargol in the treatment of blennorrhœal ophthalmia. (Du protargol dans l'ophtalmie blennorrhagique.)** *Thèse de Lyon*, 1903.

(2) **M'Gillivray, A.—The use of Protargol in ophthalmic practice.** *Lancet*, October 17, 1903, p 1097, and the *Scottish Medical and Surgical Journal*, November, 1903.

(3) **Greene, Arthur.—Protargol in the treatment of gonorrhœal ophthalmia.** *Medical Press and Circular*, November 11, 1903.

(1) Protargol, or proteinate of silver, was first employed by Neisser in gonorrhœa, and later, in the year 1898, was introduced into eye work by the present reviewer. The remedy is now employed by almost every worker in ophthalmology. Khadem has studied its action for four years, and has contrasted its effects during that time with a like period during which silver nitrate was exclusively employed. The figures (too long to be quoted here) covering these two quaternary periods are very interesting. Khadem's conclusions are as under: (1) Protargol is a medicament easy to manage, less caustic, less painful, and more antiseptic than silver nitrate. It penetrates into the tissues, while the action of silver nitrate remains limited to the surface. (2) Protargol, being free from danger, may be entrusted to inexperienced hands. It may be confided to patients, and on that account should be preferred by country practitioners, accoucheurs, and midwives. (3) Protargol, even when concentrated, is altogether inoffensive. In ophthalmia neonatorum, 50 % solution should be applied from the first, if one wishes to get the best results. (4) In gonorrhœal ophthalmia in adults and in newly-born children protargol gives results better than those obtained with silver nitrate, but it is necessary to use strong enough solutions. A. DARIER.

(2) McGillivray read a paper on protargol before the Forfarshire Medical Association on October 2, 1903. He considered that protargol was one of the most valuable therapeutic agents at present available in the treatment of certain conjunctival affections. It possessed advantages over silver nitrate, since it was not precipitated by the sodium chloride of the tears, and it did not readily coagulate the albumen of the tissues. A 1% solution dropped freely into the eyes thrice daily in catarrhal conjunctivitis gave better results than any remedy he knew of. In certain forms of epiphora it might be combined with a solution of adrenaline chloride, 1 : 10,000. In purulent conjunctivitis of the newly-born he obtained excellent results by the use of a 10% solution of protargol freely dropped into the eyes after the removal of all discharges by copious flushing with tepid normal saline solution. For the latter purpose he employs a special douche or a teapot.

(3) Greene successfully treated three cases of gonorrhœal ophthalmia with protargol, 6 % to 12 %, applied frequently

to the affected eyes. The nature of the disease was confirmed in each instance by finding the gonococcus. The patients were aged 3, 15, and 35 years respectively, and the disease was limited to a single eye in two of them.

Winselmann.—Upon the action of methylbromate of atropine, Merck. (Ueber die Wirkung des Atropinum methylbromatum, Merck.) *Ophthalm. Klin.*, 1903, 22.

Darier recommended for mydriasis a solution containing ½ % of atropine methylbromate and 1 % of cocaine. He claimed that by employing this mixture one got a considerable dilatation of the pupil with a scarcely perceptible paresis of accommodation. Winselmann now relates a number of new experiments. From these it follows that a ½ % solution of the methylbromate produces a considerable effect upon the ciliary muscle, the duration of which is hardly less than twenty-four hours. The addition of cocaine causes the dilatation to occur somewhat more quickly, but, on the other hand, increases the paresis of accommodation. A ¼ % solution, on the contrary, acts little upon accommodation—at all events, on the manifest part of the latter, while under those circumstances the commencement of the mydriasis is scarcely hastened by the addition of cocaine. The duration of the collective action, however, is not inconsiderably hastened. For actual clinical work Winselmann recommends a ¼ % solution of methylbromate of atropine without cocaine.

Likiernik, M.—The mechanical treatment of trachomatous Conjunctivæ. (Die mechanische Behandlung der trachomatös erkrankten Conjunctiva.) *Centralbl. f. prak. Augenh.*, Feb., 1904.

The author points out the difficulty and untrustworthiness of the prevalent methods of treating trachoma, as applied to trachomatous populations, and advises the mechanical treatment as simple, effective, and having the great advantage of being able to be carried out by the patient himself. His method consists in giving the patient a glass rod, on the end of which is a glass ball, of 8 mm. to 14mm. diameter —something like the bulb of an ordinary thermometer—and with this instrument the patient " irons " out his conjunctival sacs one or more times a day according to the severity of the case, keeping the bulb moist with a 1,2000 solution of oxycyanide of mercury. The author, unfortunately, contracted trachoma himself, and adopted this method of treatment with great benefit, every application being immediately followed by a feeling of ease and comfort, and the stretching and constant cleansing of the conjunctiva rapidly bringing about cure.

A. Levy.

Schulte.—A simple substitute for extirpation of the lacrymal sac. (Einfacher Ersatz für die Exstirpation des Tränensacks.) *Die Ophthalmologische Klinik*, 5 Februar, 1904, and *La Clinique Ophtalmologique*, 10 mars, 1904.

As a substitute for extirpation of the sac, Schulte advocates in suitable cases occlusion of both lacrymal canaliculi. This is simply effected (under cocaine) by dilating the parts with a conical sound and by introducing the galvano-cautery for about 4 mm. into the canaliculus, and allowing the wire to glow for two seconds. S. S.

(1) Coppez, Henri.—On the Use of Adrenalin in Ocular Therapeutics. (Sur l'emploi de l'Adrenaline en thérapeutic oculaire.) *La Clinique Ophtalmologique*, 10th January, 1903.

(2) Yvert, A.—Upon the value of Adrenaline in ophthalmic therapeutics. (De la valeur de l'adrénaline en thérapeutique ophtalmologique.) *Recueil d'ophtalmologie*, XXV (1903), p. 440.

(3) MacCallan, A. Ferguson.—Report of five cases of Glaucoma in which Adrenaline caused an increase of tension. *Trans. Ophthalmological Society*, Vol. XXIII., 1903.

(4) Zazkin, A. B.—Upon the action of adrenaline hydrochloride in some eye diseases. (Zur Wirkung des Adrenalinum hydrochloricum bei einigen Augenerkrankungen.) *Woch. f. Therapie u. Hygiene des Auges*, 17 März, 1904.

(1) Coppez, after mentioning the advantages of Takamine's adrenalin (1-1,000 of normal sodium chloride with 5 of chloretone as made by Parke, Davis & Co.) and the crystallized adrenalin (prepared by Clin & Co., of Paris), over the fresh and readily decomposible extract of suprarenal gland, proceeds to discuss its action and therapeutic uses as regards the normal eye, In the normal eye the maximum blanching is obtained in two minutes with a drop of the 1 per 1,000 solution. The effect passes off in from one to two hours, and is not followed by congestion. It has no action on the corneal epithelium, on the pupil, or on the accommodation. After mentioning the effects on muscle fibre of the intravenous injection of adrenalin, Coppez points out that the drug is considered by Reichert to be an antidote to opium. When associated with cocain, adrenalin augments the anæsthesia and anæmia caused by the latter, but lessens the tendency to cocain syncope. According to Taramasco, death always takes place (rabbit) after injection of 2 c.g. of adrenalin and is due to acute pulmonary œdema. The author has, himself, experimented regarding its effect on the fundus oculi after

sub-conjunctival injection. The blanching effect upon the retinal vessels of a hypermetrope and of a patient with choked-disc was decided but partial.

Coppez divides the therapeutic applications into two groups: (1) in which adrenalin is used alone; (2) in which it is associated with other drugs. The latter is the more important. Adrenalin may be used alone for normal eyes which easily become irritable and are given to lacrymation. Associated, it accentuates to the effect of all the alkaloids to which it is added. Cocain anæsthesia is more rapid and profound. The actions of atropine and pilocarpine are strengthened. In inflamed eyes, which resist the action of cocain, atropine, and pilocarpine, adrenalin by its blanching effect assists the action of these by reducing vascularity. It is therefore of much service in iritis and in acute and chronic glaucoma. For example, in iritis:—atropine sulph., 5 centigrammes; cocain hydrochlor, 20 c.g.; adrenalin chlor. (1—1,000), 2 grammes; distilled water, 8 grammes. One drop every three hours. Again, in acute or subacute glaucoma:—Pilocarpine hydrochlor., 10 c.g.; adrenalin chlor. (1—1,000), 5 g.; distilled water, 5 gr. One drop every hour until the paroxysm ceases.

In acute conjunctivitis, in order to obtain the action of cocain the combination of the latter with adrenalin is useful. In lacrymal affections adrenalin and cocain form a useful combination; more particularly in inflammatory stricture. The turgescence is reduced so that treatment by syringing of caustics can be carried out. In operations on the conjunctiva, on the ocular muscles, and in iridectomy adrenalin prevents the annoying bleeding which often occurs. Finally, Coppez has used adrenalin (1 in 5,000 on gauze and covered with gutta-percha tissue) in the treatment of tuberculous and epitheliomatous ulcers of the eyelids, but has not yet had sufficient experience of its value in this respect to express a definite opinion. W. Ernest Thomson.

(2) Yvert, of Dijon, believes that adrenalin greatly adds to the activity of such alkaloids as atropine, cocain, and physostigmine when it is associated with them. This is more particularly the case when the eye is congested, and under these circumstances adrenalin may well replace leeches, which are always more or less distasteful to the patient. A drop of adrenalin applied to the inflamed eye two or three times a day, will, according to Yvert, speedily cure acute catarrhal ophthalmia. The author believes adrenalin to be a specific in rheumatic conjunctivitis, arthritic congestion of the sclera, spring catarrh, scleritis, and episcleritis. In severe iritis Yvert recommends a collyrium containing atropine sulphate, cocaine hydrochloride, and adrenalin hydrochloride.

When posterior synechiæ exist, dionine is to be added to the foregoing formula. In acute glaucoma, when operation cannot be performed, relief may sometimes be obtained from a combination of pilocarpine and adrenalin used often to the eyes; physostigmine may or may not be added. Adrenalin has also an action in some forms of chronic irido-choroiditis, and retinal hæmorrhage and thrombosis (Galezowski). It is said by Yvert to be useful in vitreous hæmorrhages. Adrenalin, combined or not with cocain, may be used as an anæsthetic in cauterising the cornea or in probing the nasal duct. The agent is useful in operations upon the conjunctiva, in iridectomy and in iridotomy, and in squint. Yvert's paper, which occupies sixteen pages of the *Recueil*, concludes with a few remarks upon the diagnostic applications of adrenalin, already insisted upon by Darier in his well-known work upon ocular therapeutics. S. S.

(3) MacCallan gives a detailed account of five cases of acute or sub-acute glaucoma where the local application of adrenalin caused an increase in tension. It is, however, necessary to note that the author has used the drug in many other cases of glaucoma without seeing untoward symptoms set up.

(4) Zazkin has experimented upon 53 cases of eye disease with a 1:1,000 solution of adrenalin chloride, obtained from Parke, Davis & Co., or from Pœhl, of St. Petersburg. He gives the following conclusions:—(1) the therapeutic value of adrenalin is not great in sub-acute and chronic forms of conjunctivitis; (2) it does not increase remarkably the anæsthetic influence of cocaine; and (3) the reduction of hæmorrhage brought about by adrenalin during operations is inconsiderable. S. S.

Smith, Major Henry—Extraction of cataract in the capsule. *Brit. Med. Journal*, September 26, 1903.

Major Henry Smith, as the result of his Indian experience, is an ardent advocate of removal of the lens in its capsule. The appended table gives his results in 1,023 cases operated upon in that way:—

Table of Results of Cases submitted to Extraction in the Capsule at Jallundhar Civil Hospital from January 1st to May 1st, 1903.

Number.	Iritis.	Escape of Vitreous.	Capsule Bursting.	Capsule Left Behind.	First-class Results.	Second-class Results.	Third-class Results.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
1,023	0·19*	6·6	8	4	94·42	0·19	0·39

*Occurred in cases where the capsule was left behind.

Hale, Albert B.—Notes on some of the newer methods and drugs in ocular therapeutics, methylbromide of atropine, dionine, subconjunctival injections, jequiritol. *Ophthalmic Record*, December, 1903.

As a result of his personal experience, Hale has finally and permanently adopted the following substitutes for or supports to older therapeutic resources, namely, methylbromide of atropine, dionine, subconjunctival injections, and jequiritol.

REVIEWS.

Royal London Ophthalmic Hospital Reports. Vol. XV, part IV, October, 1903. Edited by WILLIAM LANG, F.R.C.S.

This number of the Royal London Ophthalmic Hospital Reports contains a number of important and interesting communications by Messrs. Verhoeff, Nettleship, W. T. Lister, W. I. Hancock, E. E. Henderson, J. H. Parsons, and W. Inman. These papers will all be noticed in due course in the columns of the OPHTHALMOSCOPE.

A Manual of Ophthalmic Practice. By CHARLES HIGGENS, F.R.C.S.E. Second Edition, revised and edited by ARTHUR W. ORMOND, F.R.C.S.E. London: H. K. Lewis, 136, Gower Street, W.C. 1903.

The second edition of Higgens' "Manual of Ophthalmic Practice," has recently been published, revised, and edited by Mr. A. W. Ormond. It forms one of "Lewis's Practical Series" in which occur so large a number of useful books though few, if any, attempt to be more than practical books. This one is stated to be "intended for students and general practitioners; it does not pretend to go deeply into the subject." We thus find that its scope is much more suitable for students preparing for examinations than as a text-book of reference for those who make a special study of eye diseases.

It is arranged in the usual text-book style, of which so many are now in existence. It commences with the customary chapter on light and optics and the lenses used in ophthalmic work. Then comes a chapter on the examination of the eye, and a description of the ophthalmoscope and such-like instruments and the various refractive errors of the eye.

Chapter 5 commences with diseases and injuries of the eyeball, and then follows a detailed description of the various diseases that are met with in ophthalmic practice; this occupies about 250 pages. The book is certainly fragmentary and only the most ordinary things are described. Thus, tumours of

the iris are dismissed with these few words: "Instances, however, of malignant growths, dermoids and simple cysts, and of the cysticercus have been met with in the iris." Sarcoma of the choroid is not mentioned under the head of diseases of the choroid at all; a short account of it is, however, given in the last chapter on tumours of the eyeball, by no means a satisfactory arrangement. The well-known diagrams from Bryant are again reproduced, in which a surgeon with a markedly hydrocephalic head is represented doing major and minor eye operations. It is to be hoped that this is the last we shall see of this ridiculous-looking diagram, which is thoroughly out of date, and really gives no idea of what it is intended to show. In describing the operation of tattooing the cornea, toothed forceps are recommended for fixing the eyeball, and a bunch of needles for pricking the cornea. It is astonishing that this should be so, for the danger of tattooing the conjunctiva is obvious and it is quite unnecessary to fix the eyeball at all in this operation, if only the fingers are used instead of a speculum. We were also under the impression that the old-fashioned bunch of needles was universally given up in favour of an ordinary discission needle. The index might certainly be improved; and, on the whole, the book is hardly as complete and as trustworthy as some others that are published of about the same size.

Archives of Neurology of the Pathological Laboratory of the London County Asylums.—Tabes in Asylum and Hospital Practice. By F. W. Mott, M.D., F.R.S.

It would not be easy to speak too highly of the admirable work which has been and is being carried out in connection with the London County Asylums by Dr. Mott and by those associated with him. The monograph under notice is an example of that work at its best. It is not merely an enumeration of symptoms and their corresponding morbid substrata. It is a piece of work which shows the wide and comprehensive grasp which its writer has of his subject, and it is even more admirable in its suggestiveness than in its actual contributions to knowledge, although these also are by no means to be despised.

The results arrived at with reference to optic and ocular symptoms are those which chiefly concern us here. The Argyll Robertson pupil was found to exist with almost equal frequency in hospital cases of tabes or asylum cases of tabo-paralysis. We are still without explanation of these cases—few it is true, of what at least we call tabes—in which there are no pupillary symptoms, and no one has yet been able to say that there is a definite clinical type of tabes in which, as a rule, the pupil is unaffected.

As to inequality of pupils, this seems to have been more frequent (65%) in the Asylum cases, as contrasted with 40% in Hospital cases. We should have thought that in hospital cases the pupils are unequal in a much larger proportion than 40%.

Ocular palsies, diplopia, etc., on the other hand, seem to be more frequent in the hospital cases of ordinary tabes than in the asylum cases of tabo-paralysis.

In regard to optic atrophy, neurologists and ophthalmic surgeons are deeply indebted to Dr. Mott for the elucidation of this subject. He was one of the first, if not actually the first, to point out the significance of many cases of obscure optic atrophy. He found several cases of general paralysis in which the mental symptoms necessitating the removal of the sufferers to asylums had supervened several years after the patients had become blind from optic atrophy, and there can be little doubt that most cases of primary optic atrophy are of tabetic or general paralytic origin. It is well, also, that Dr. Mott has pointed out the inaccuracy of Benedikt's so-called "law," *viz.*, that tabetic motor symptoms vanish as soon as optic atrophy appears. There is no doubt that many cases in which optic atrophy is an early sign, remain free for long from ataxy, yet it is not the case that patients already ataxic lose their ataxy if optic atrophy supervenes.

Such are some of the points of ophthalmic interest referred to in this book. It does not lend itself to being summarized, but it is well worth the careful perusal of all to whom a scientific and suggestive study of clinical and pathological material appeals.

JAMES TAYLOR.

Colapinto, G.—The therapeutic indications furnished by the different varieties of Glaucoma. (Sulle varieta di Glaucoma e sulle differenti indicazioni terapeutiche.) Cressati, Edit., Noci, 1902.

Colapinto's monograph is dedicated to Professor De Vincentiis, and inspired by the work of the Naples *clinique* controlled by that authority. It commences with anatomico-pathological considerations, analyses the different clinical forms of the disease in two chapters—the first devoted to primary glaucoma, and the second to secondary glaucoma. For each of these forms the author describes the medical and surgical treatment. The last paragraphs deal with sympathetic glaucoma, reflex glaucoma, and pseudo-glaucoma. An alphabetical bibliography, containing 66 references (1709 to 1902) is appended to the treatise. A. ANTONELLI.

Barreto, Mello.—Trachoma in the State of St. Paul, in the Western regions, or coffee zones, of Brazil. (Le Trachome dans l'etat de St. Paul dans les regions de l'ouest ou zones cafeières au Bresil.) DUPRAT & Co., Rua Direita, S. Paulo, 1903.

According to Dr. Barreto's *brochure*, trachoma has become a veritable scourge amongst the working classes living in the west of Brazil. There is not a single coffee plantation to the west of St. Paul where the "colons" are not affected with the malady. Barreto gives the proportion of those diseased as one in six. The passage of infection is fostered by the heat of the country and the large amount of dust in the air. The author calls for the adoption of measures by the municipality that have been found useful in other countries in stemming the ravages of trachoma—as, for example, compulsory notification, isolation, and so forth.

NOTES AND ECHOES.

The Optician Question.

THE following trenchant paragraph is taken from the *Lancet*, of 16th April, 1904 :—

"TESTING THE EYESIGHT OF A NATION."

"The reception given by the *Times* to the circular under the above heading, which was sent by the *Optician and Photographic Trades Review* to the Press generally, has in no small degree fluttered the Volscians of the optical Corioli. The *Times*, in very plain language, condemned the proposed 'diploma' of the Spectacle Makers' Company as a document which would be used to mislead the public and pointed out that the relations between errors of refraction and troubles arising from, or connected with, disease were so intimate that no one not possessing medical knowledge could be trusted to unravel them. It seems, however, to have fallen into the mistake of attributing the invention of the word 'optologist' to the 'Optical Society,' of which the *Review* above quoted is the 'official organ' and which has hastened to disclaim the imputed merit. The poor word, indeed, seems to have no friends. It is said by Mr. Laurance to be of 'Transatlantic origin' and to be 'curious and ungainly' but the fact remains that it has come into regular employment by spectacle-selling quacks. We frequently see an omnibus carrying a large outside notice board covered by the advertisement of a person who describes himself as 'Eye Specialist and Optologist, qualified by examination,' and whose shop has 'Ophthalmic

Institution' in large letters over the door. In the columns of the *Times* the advocates of the new 'diploma' roar like sucking doves and profess that all they require is to be subjected to fresh 'limitations' by the action of the Spectacle Makers' Company. What they really wish is, of course, to be represented to the public as the possessors of knowledge which in reality they do not and cannot possess. Assuming them to be honest men, they are not only ignorant but are in the still more hopeless position of being ignorant of their ignorance. A curious assumption by the Editor of the *Review* in his letter to the *Times* is that 'there are only 400 oculists.' What he means by an 'oculist' or how he arrives at the number is not stated, but he is clearly not aware that the conditions of vision and the nature and treatment of errors of refraction form part of the ordinary medical curriculum and that every candidate for a medical qualification is as much liable to be examined about them as about any other portion of the wide circle of professional knowledge. No medical practitioner under 50 years of age has the slightest excuse for want of acquaintance with either the diseases or the functional derangements of the eye or should be in the least liable to confound one with the other."

* * * *

Annals of Ophthalmology—British Edition.

THE British Edition of the American *Annals of Ophthalmology* for January reached our office on March 21st, 1904. It was thus a day or two late for the fair, a fact that accounts for our somewhat belated notice. So far as we can perceive, the British differs from the native edition only in possessing a mouse-grey cover instead of a green one. The type and setting are good, but the quality of the paper and the printing leave something to be desired. The *Annals* have been encouraged to extend their sphere of operations in this new departure by twelve years of prosperity in the land of their birth. We extend to them a hearty welcome, and trust that their career on this side of the Atlantic will be a phenomenal success. This cordial feeling of congratulation is strengthened and emphasised by the statement made in the preliminary "announcement" to the effect that the excellence of the *Annals* "have only been accomplished by much self-denying work and actual drudgery on the part of the Editorial Staff, all of whom are busy men of note in their respective localities, who give their valuable time and labour without monetary recompense." That is apparently in accordance with the universal rule of experience of special medical journalism. The Editor has the courage of his convictions,

for he says, "We have endeavoured to give our readers only the best obtainable material, not only as to the original articles, but particularly as regards our abstracts and reviews, which are, without doubt, the most extensive and numerous of any ophthalmic journal ever published." The amount of valuable material in the *Annals* certainly warrants the Editor in not hiding his light too modestly beneath the proverbial bushel. Salaam.

* * * *

The Aliens Bill, 1904.

THE Aliens Bill is founded, in its medical aspects at any rate, on unimpeachable grounds. To exclude persons suffering from communicable diseases from our country is to enforce a wholesome elementary principle of prevention. Of such sufferers those afflicted with "granular lids" romp in somewhere at the top of the list. Every trachomatous person should be sent back by return steamer—or earlier, if that were possible—to the country whence he came. To inspect the eyes of immigrants would, of course, mean special officers, unless the duty could be entrusted to our port sanitary medical officers of health, whose duties, however, are already multifarious enough in all conscience. Any increased loss, however, entailed by the exclusion of granular lids would be a considerable gain for the community in the long run. Precise figures as to the prevalence of granular lids amongst immigrants have never been obtainable. Clearly it is no good endeavouring to stamp out the disease by enlightened and scientific preventive machinery in the United Kingdom, if fresh centres of infection are to be brought daily into the country without let or hindrance. Dr. Robert Reid Rentoul, one of the most recent writers on the subject, remarks: "If the recommendations of the Royal Commission as to the appointment of Medical Officers to examine all immigrants who declare that they intend to reside in the United Kingdom be adopted, it will be necessary that a full enquiry be made into the whole subject of trachoma." So we think! Aliens Bill or no Aliens Bill, trachoma must and shall be excluded from our shores.

* * * *

Death of Dr. E. Donaldson.

THE hand of death has been busy of late in the ranks of the medical profession. In the first week of April it robbed the OPHTHALMOSCOPE of one of its first subscribers and a constant contributor to its columns in the person of Ebenezer Donaldson. In fact, the April number contained a clinical memorandum from his pen. His death took place at Londonderry at the early age of 49 years. A native of county Cork, he studied at the Dublin School of Medicine, and after a short

time at sea and as resident officer in a Dispensary he settled down in Londonderry. Soon afterwards he founded the Londonderry Eye, Ear, and Throat Hospital, of which he was joint surgeon with Dr. Hunter. Upon his general practice he grafted that of ophthalmology, in which branch of medicine he became a distinguished and successful practitioner. He filled many important posts, including a seat for many years on the General Council of the British Medical Association. His life was that of an amiable, energetic, and accomplished man, an ornament to his profession, and a true friend alike to rich and to poor.

* * * *

Oxford Meeting of the British Medical Association.

WITH regard to the ear-marking of Keble College for the accommodation of members of the section of ophthalmology at the forthcoming meeting of the British Medical Association at Oxford, several enquiries have reached us as to the approximate cost of living in the College. We are able to state that the inclusive expense of rooms and meals will not exceed six or seven shillings a day. Members are again reminded that no accommodation is provided in the College for ladies.

* * * *

The Jacksonian Prize.

THE Jacksonian Prize of the Royal College of Surgeons of England, upon the Pathology and Treatment of Conjunctivitis, has been won by Mr. Stephen Mayou, F.R.C.S. It is to be hoped that the Prize Essay may see the light of publication, and not be buried in the archives of the College.

* * * *

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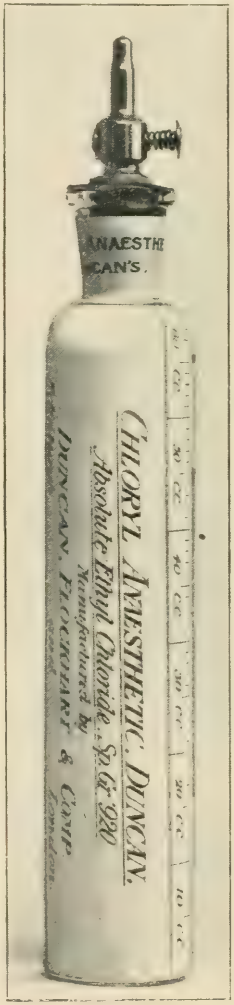

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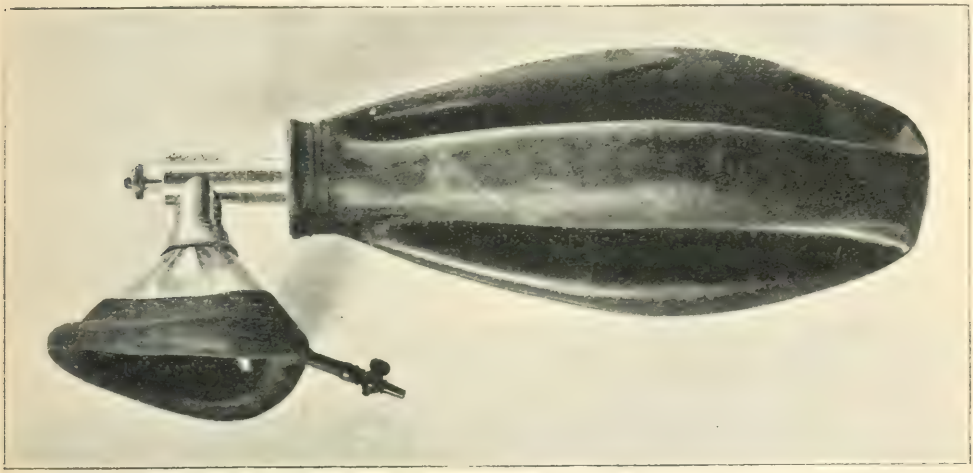

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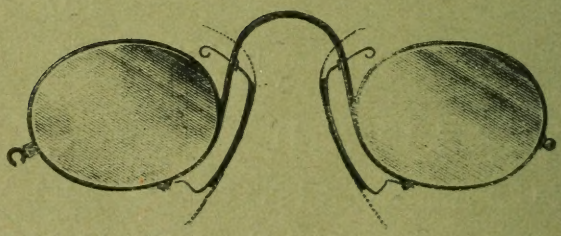

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